



HISTORICALLY BLACK COLLEGES AND UNIVERSITIES

**NASA TECHNOLOGY INFUSION**

# ROAD TOUR



AND MINORITY-SERVING INSTITUTIONS

## Grambling State University

Dr. Connie Walton  
Director of Sponsored  
Programs/Professor



Office of  
**Small Business**  
Mentor-Protégé Program

# GRAMBLING STATE UNIVERSITY

- ❑ President- Richard Gallot Jr., JD
- ❑ Established 1901 in Grambling Louisiana
- ❑ Accredited by the Southern Association of Colleges and Schools Commission on Colleges
- ❑ 4863 students
- ❑ Student body represents 43 states and 25 countries
- ❑ Offer bachelors, masters, doctoral degree programs



Prepares graduates

- ❑ to compete and succeed in careers
- ❑ to contribute to the advancement of knowledge
- ❑ to lead productive lives as informed citizens
- ❑ to be committed to improving the quality of life of others

# ACADEMIC PROGRAMS

## College of Business

Accounting, Computer Information System, Economics, Management, Marketing

**Accredited by Association to Advance Collegiate Schools of Business**



## College of Education and Professional Studies

Social Work, Nursing, Mass Communication, Criminal Justice, Teacher Preparation, Kinesiology, Leisure Studies, Sports Administration

**Accreditations**-Accreditation Council of National Recreation and Park Association, Council on Social Work Education, Accreditation Commission for Education in Nursing, Council for the Accreditation of Educator Preparation (formerly NCATE), National Recreation and Park Association

# ACADEMIC PROGRAMS

## College of Arts & Sciences

### *Liberal Arts Programs*

Child Development, English, History, Music,  
Political Science, Psychology, Social Sciences, Public Administration

**Accreditations**-Network of Schools of Public Policy Affairs & Administration, National Association of Schools of Music, National Association of Schools of Theater

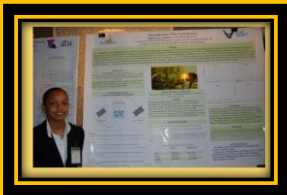


### *STEM Programs*

Biology, Chemistry, Computer Science, Engineering Technology,  
Mathematics/Physics



**Accreditations**-ABET-ETAC, ABET-CAC, Committee on Professional Training- American Chemical Society



# FACULTY RESEARCH

## BIOMEDICAL



- ❑ Toxicogenomics
- ❑ Gene Interactions
- ❑ DNA Replication, Damage and Repair
- ❑ Mechanisms of Cancer Repair

## CYBERSECURITY AND BIG DATA

- ❑ Cognitive Radio Network Security
- ❑ High Performance GP-GPU Computing in Federated Hadoop Systems
- ❑ Deep Learning & Anomaly Detection
- ❑ Game Models
- ❑ Backpropagation Models-Neural Networks
- ❑ Cloud Data Security





# FACULTY RESEARCH



## MATERIAL SCIENCE

- ❑ High Performance Polymer Synthesis
- ❑ Synthesis of Liquid Crystalline Materials
- ❑ Preparation of Composites
- ❑ Characterization of Nanoporosity in Polymers
- ❑ Vacancy defects in Metals
- ❑ Micro-hardness Analysis
- ❑ Magnetization Studies
- ❑ Crystal Phase Composition

## MATHEMATICAL BIOLOGY

Deterministic Mathematical and Stochastics Models to Study the Spread of Infectious Diseases

- Malaria
- Typhoid
- Zika Virus

# FACULTY RESEARCH

## ENGINEERING TECHNOLOGY

- ❑ Construction Management
- ❑ Computer-Aided Drafting Design
- ❑ Architectural Drafting Design
- ❑ Electronics Engineering Technology



## MOLECULAR MODELING

- ❑ Quantum Mechanics and Monte Carlo Based Computational methods to Study Charge Transport and Impact on Structural Properties of Polymers
- ❑ Study of Molecular Transport in Nanostructures using Stochastic Models



# PAST AND CURRENT PERFORMANCE

## NASA

- ❑ NASA Minority University Research and Education Project (MUREP) Educator Program  
Participant-Minority participation for future NASA workforce: Curriculum Improvement, 2 year to 4-year colleges bridge, University-NASA Research Centers Collaboration, 2009-2014, \$400,00, Dr. N. Seetala, PI, Award # NNX09AU97G
- ❑ Polymerizable Monomer Reactant (subcontract with Clark Atlanta University and John Glenn Research Center), 2003-2008, \$244,000, Dr. D. Hubbard, PI, Award # SP-03-04-30403-001
- ❑ Synthesis of Materials that Exhibit Nonlinear Optic Behavior, Subcontract with University of New Mexico-Highlands, 200-2003, \$30,000, Dr. C. Walton, PI
- ❑ Synthesis of a Thermally Stable Polyamide for Nonlinear Optic Applications, 1998-2000, \$240,000, Dr. C. Walton, PI



# PAST AND CURRENT PERFORMANCE

## NATIONAL SCIENCE FOUNDATION

- ❑ NSF-Experimental Program to Stimulate Competitive Research (EPSCOR): Consortium for Innovation in Manufacturing and Materials, 2015-2020, \$400,000, Dr. N. Seetala, Dr. P. DeRosa, Co-PI's, Award # 1541079
- ❑ NSF HBCU-Undergraduate Participation: Supplemental Award, Synthesis of Biodegradable Polymers, 2016-2018, \$120,000, Dr. C. Walton, PI
- ❑ NSF HBCU-Undergraduate Participation: Center for Mathematical Achievement in Science & Technology 2005-2018, \$4.4 Million, Dr. C. Walton, PI, Award # 1137590
- ❑ NSF-EPSCoR: Louisiana Alliance for Simulation Guided Materials Application (LA-Sigma): Materials for Energy Storage and Conversion-Catalytic reactions Involving Metal Oxides, 2012-2014, \$30K, Dr. N. Seetala, PI, Award # EPS-1003897

# PAST AND CURRENT PERFORMANCE

## AIR FORCE RESEARCH LABORATORY (AFRL)

2005 -2020 \$3.8 Million

Award #s W911NF-12-R-0009, FA8650-13-C-5800, FA8650-05-D-1912

- ❑ Design and Implementation of a Cognitive Radio Cloud Network, Dr. Y. Reddy, PI, AFRL
- ❑ Robotics Training for High School Students & Teachers, Dr. Y. Reddy, PI, AFRL
- ❑ High Performance GP-GPU Computing in Federated Hadoop Systems, Dr. Y. Reddy, PI, AFRL
- ❑ Advanced Ceramic Materials Processing and Characterization Using Position Lifetime Spectroscopy, SEM, Micro-hardness, and FT-IR, Dr. N. Seetala PI, AFRL
- ❑ Advanced Nano-Reinforced Composite Materials, Dr. N. Seetala PI, AFRL
- ❑ Synthesis of Polyimides to be used in the Fabrication of a Low Driving Voltage Electro-Optic Modulator, USAF, Office of Scientific Research, 2001-2004, \$260,000, Dr. C. Walton, PI

# PAST AND CURRENT PERFORMANCE

## DEPARTMENT OF ENERGY

- ❑ DOE-EFRC: Center for Atomic Level Catalyst Design of Nano-Catalysts, 2009-2014, \$100,000, Dr. N. Seetala PI, Award# DE-SC0001058
- ❑ DOE: Development of low cost membranes for H<sub>2</sub>/CO<sub>2</sub> separation in WGS reactors, 2007-2011, \$200,000, Dr. N. Seetala, Award# DE-FG26-07NT43064.

## LOUISIANA BIOMEDICAL RESEARCH NETWORK 2015-2020 Award Period, \$719,524

- ❑ Project I- Research on the toxicity of PCP in gene expressions in hepatocyte culture, Dr. W. Dorsey PI
- ❑ Project II- Understanding the Cellular Mechanisms that lead to Non-Alcoholic Fatty Liver Disease Development & Progression, Dr. P. Kim PI

# MATERIAL SCIENCE INSTRUMENTATION

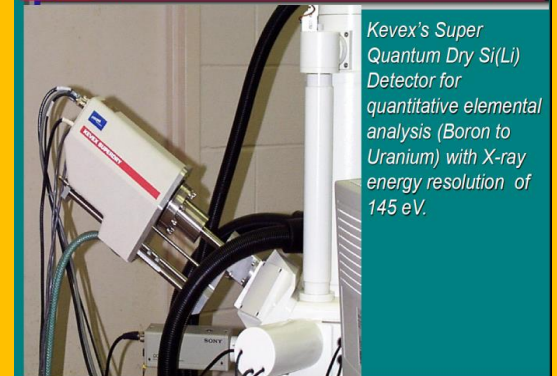
Positron Lifetime Spectroscopy, Differential Scanning Calorimeter/Thermal Gravimetric Instrument, Thermomechanical Analysis Instrument, FTIR's, UV Visible Spectrophotometer, Atomic Absorption Spectrometer, Gas Chromatography/Mass Spectrometer, Continuum FTIR Microscope

Magneto-Sputter Coater  
- Multilayer Thin Film Preparation



Continuum FTIR Microscope

Energy Dispersive X-ray Spectrometer (EDXS)



# MATERIAL SCIENCE INSTRUMENTATION



Polarizing Optical Microscope  
Equipped with Hot Stage



FTIR, UV Vis, AA, GC/Mass Spectrometer



Vibrating Sample Magnetometer



SQUID Magnetometer

Scanning Electron Microscope (SEM)  
Energy Dispersive X-ray Spectrometer (EDXS)  
for Elemental Spot Analysis





# ENGINEERING TECHNOLOGY LABS



3 D Printers



Cisco Academy Lab



Architectural Design Lab

## CONTACT INFO

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